

# **EVALUATION OF ANTIBACTERIAL ACTIVITIES AND TOXICITY OF *Licuala spinosa*'s FRUITS**

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This Final Year Project Report entitled “**Evaluation Of Antibacterial Activities And Toxicity Of *Licuala Spinosa*’s Fruits**” was submitted by Nur Izzati Binti Zakaria, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences, and was approved by



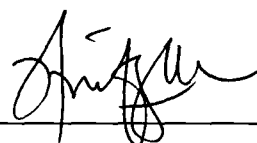
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## TABLE OF CONTENTS

	PAGE
ACKNOWLEDGEMENT	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	ix
ABSTRACT	x
ABSTRAK	
<b>CHAPTER 1: INTRODUCTION</b>	
1.1 Background of Study	1
1.2 Problem Statement	3
1.3 Significance of the Study	4
1.4 Objectives of the Study	5
<b>CHAPTER 2: LITERATURE</b>	
2.1 Medicinal plant	6
2.2 <i>Arecaceae</i> family	7
2.3 Genus <i>Licuala</i>	8
2.4 <i>Licuala spinosa</i>	9
2.5 The microorganism	
2.5.1 <i>Pseudomonas aeruginosa</i>	12
2.5.2 <i>Bacillus subtilis</i> .	13
2.5.3 <i>Escherichia coli</i>	14
2.5.4 <i>Micrococcus luteus</i>	15
2.6 Brine shrimp lethality test	16
<b>CHAPTER 3: METHODOLOGY</b>	
3.1 Materials	
3.1.1 Raw Materials	17
3.1.2 Chemicals	17
3.1.3 Apparatus	17
3.2 Methods	
3.2.1 Sample preparation	20
3.2.2 Solvent Extraction	20
3.2.3 Preparation of Mueller-Hinton agar	22
3.2.4 Preparation of nutrient broth	22
3.2.5 Culturing the bacteria	23
3.2.6 Kirby Bauer disc technique	23

3.2.7	Lethality test	
3.2.7.1	Hatching shrimp	24
3.2.7.2	Test on the brine shrimp	25
3.3	Statistical analysis	26
<b>CHAPTER 4: RESULTS AND DISCUSSION</b>		
4.1	Plant materials	27
4.2	Plant extract preparation	28
4.3	Antimicrobial and disc diffusion assay	29
4.4	Brine shrimp lethality assay	35
<b>CHAPTER 5: CONCLUSION AND RECOMMENDATION</b>		39
<b>CITED REFERENCES</b>		40
<b>APPENDICES</b>		45
<b>CURRICULUM VITAE</b>		49

## ABSTRACT

### EVALUATION OF ANTIBACTERIAL ACTIVITIES AND TOXICITY OF *Licuala spinosa*'s FRUITS.

*Licuala spinosa* (Arecaceae) was used by the natives in Malaysia to treat centipede bites and act as antidote to poisoning. An evaluation on the antibacterial and acute toxicity activity of the extract of this plant is crucial to support the therapeutic claims. The extract was prepared through the maceration of dried powdered fruits using 70% methanol. It was tested against five different concentrations which were 25 mg/ml, 50 mg/ml, 100 mg/ml, 200 mg/ml and 400 mg/ml of distilled water. The vancomycin was served as positive control while methanol was used as negative control. The methanolic extract of *L.spinosa*'s fruit was tested on gram negative bacteria (*Pseudomonas aeruginosa* and *Escherichia coli*) and gram positive bacteria (*Bacillus subtilis* and *Micrococcus luteus*) by using disc diffusion method. The results showed that the extract has the highest antibacterial activity on *B. Subtilis* at concentration 400 mg/ml with zone inhibition of 10.7 mm. For gram negative bacteria, extract showed the highest antibacterial activity on *P. aeruginosa* at concentration 400 mg/ml with zone inhibition of 4.3 mm. Then, the methanolic extract of *L.spinosa*'s fruits was tested using brine shrimp lethality test. The LC<sub>50</sub> was lesser than 1.0mg/ml in which was known to possess toxic effect. The maximum mortality took place at concentration 200 µg/ml which is 86% mortality rate whereas there is no mortality observed at 10 µg/ml.